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### PROVISIONAL SPECIFICATION

#### Improvements in or relating to Cutlery

I, ROBERT WOOD, of 2, Ryden Avenue, Cleveleys, Blackpool, Lancashire, British nationality, do hereby declare the nature of this invention to be as follows:—

- 5 This invention relates to cutlery and more particularly to butter knives, its object being to provide simple means for heating the knife blade to facilitate spreading of the butter or the like. In canteens 10 especially where the bread is sliced by machine, it is sometimes very difficult to spread the butter or the like without crumbling the middle of the slice. It is not unusual to try and warm the knife 15 blade by immersion in hot water, but this is not a satisfactory method whereas by the present invention the knife blade can be readily warmed or heated to the required degree. The device is equally useful 20 in the home or tea shops, and so on.

According to the present invention the knife blade is preferably heated by electricity although it could be heated by gas.

- 25 In a simple construction a fine resistance wire is incorporated inside the actual blade.

- 30 In another construction the handle is adapted to contain an electric bulb such as a tubular electric bulb which will impart sufficient heat to the shank which advantageously is hollow, the blade also being hollow if desired.

- 35 In these examples the resistance wire or the bulb is connected to leads, or terminals for connection to a source of supply with or without the interposition of

a transformer or other means for cutting down the current from the ordinary supply mains.

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On the other hand a self-contained unit can be obtained by fitting a dry battery in or to the handle of the butter knife as will be easily understood.

Whenever desired a switch of any 45 appropriate type can be inserted in the circuit and located on the handle so as to be easily controlled during the buttering operation or to save disconnection from the main current supply when the knife 50 is not required. In some cases the plug and socket connection may be provided between the mains and the handle.

The resistance when incorporated in the knife blade may be in the form of a disc 55 or plate of copper or other high conducting metal, let into the knife, instead of a simple resistance wire.

The handle can be protected by asbestos or heat resisting material.

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It is helpful to have the tip of the knife blade scored, serrated or grooved to facilitate the spreading of the butter or the like.

The blade will heat up sufficiently in a matter of seconds, consumption of electrical current is negligible and the device 65 lends itself to mass production methods. Such a blade is also ideal for spreading icing on cakes.

Dated this 23rd day of November, 1944.

CHATWIN & COMPANY

253, Gray's Inn Road, London, W.C.1,  
Patent Agents for the Applicant.

### COMPLETE SPECIFICATION

#### Improvements in or relating to Cutlery

- 70 I, ROBERT WOOD, of 2, Ryden Avenue, Cleveleys, Blackpool, Lancashire, British nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly 75 described and ascertained in and by the following statement:—

- 80 This invention relates to knives adapted to be heated electrically for spreading fatty substances such as butter its object being to provide a simple and improved

means therefore which is particularly useful in canteens where the bread is sliced by machine and it is sometimes very difficult to spread the butter or the like without crumbling the middle of the slice. 85

According to the present invention the knife blade which is heated by electricity, comprises a blade having a tang around which is provided a hollow handle, wherein an electrical heating means is located 90 either within said handle or within the

material of the blade, suitable conductors being provided to supply electric current to said heating means.

In one construction, the heating means consists of an electrical resistance wire surrounding the tang or located within the blade.

In a modification the handle is adapted to contain an electric bulb such as a tubular electric bulb which will impart sufficient heat to the tang which is hollow, the blade also being hollow if desired.

In these examples the resistance wire or the bulb is connected to leads, or terminals for connection to a source of supply with or without the interposition of a transformer or other means for cutting down the current from the ordinary supply mains.

On the other hand a self-contained unit can be obtained by fitting a dry battery in or to the handle of the butter knife as will be easily understood.

Wherever desired a switch of any appropriate type can be inserted in the circuit and located on the handle so as to be easily controlled during the buttering operation or to save disconnection from the main current supply when the knife is not required. In some cases a plug and socket connection may be provided between the mains and the handle.

In another modification, a heat conducting plate is located in the blade near the top and connected to the tang.

The handle can be protected by asbestos or heat resisting material.

It is helpful to have the tip of the knife blade scored, serrated or grooved to facilitate the spreading of the butter or the like.

The blade will heat up sufficiently in a matter of seconds, consumption of electrical current is negligible and the device lends itself to mass production methods. Such a blade is also ideal for spreading icing on cakes.

The invention is shown in several forms of construction by way of example in which:—

Fig. 1 is a view of one construction.

Fig. 2 is a similar view with the handle removed.

Figs. 3 to 5 illustrate various other ways of heating the knife blade.

In Figs. 1 and 2 the knife blade is of typical construction but advantageously grooved or ridged at the tip B to facilitate spreading of butter or the like.

The handle C serves as a casing for an electrical resistance D which is connected up to a suitable source of electric energy, a transformer being interpolated in known manner, if necessary or the source of power being supplied by a dry battery housed, if desired, in the handle

or an extension thereof.

An "on" and "off" switch E is also included in the circuit being preferably located on the handle C.

Obviously the switch E could be in the form of a rheostat to control the amount of heat conveyed to the blade.

In the construction referred to the resistance wire or heater is wound about the tang F of the blade, and the handle can be made of any appropriate material of insulating nature, or from plastic material which can be coloured variously to give an attractive article, such handle embodying a rubber sleeve G or the like to prevent deterioration or kinking of the electric leads H, as is common practice with electric irons and like apparatus.

In the construction shown at Fig. 3 a simple resistance wire L is embedded in the blade near the tip with a mica covering and is connected to a source of electric current.

In Fig. 4 a plate of copper K or other good heat conducting material is let into the blade near the tip of the blade and forms an extension of the tang F whereby the heat induced in the tang F will flow towards the plate K and heat the tip of the knife.

In the construction shown in Figure 5 the source of heat is shown as an electric bulb J, the blade A' being hollow so that the heat from the bulb carried in the handle C travels thereto.

Such simple means of heating the blade of a knife provide a much needed and valuable accessory in the household, canteens and so on tending to economise in the use of butter in catering establishments especially, and furthermore providing a new commercial article which can be manufactured without difficulty.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. An electrically heated knife for the easy spreading of fatty substances such as butter, comprising a blade having a tang around which is provided a hollow handle, wherein an electrical heating means is located either within said handle or within the material of the blade, suitable conductors being provided to supply electric current to said heating means.

2. An electrically heated knife as claimed in Claim 1 in which the handle is provided with a switch for the control of the current supply.

3. An electrically heated knife as claimed in Claim 2 in which said switch is in the form of a rheostat for regulating the amount of current supplied to the

heating means.

4. An electrically heated knife as claimed in any of the preceding claims in which the tip of the blade is scored,  
5 serrated or grooved, whereby the material may be more easily spread.  
5. An electrically heated knife as claimed in any one of the preceding claims in which the heating means consists of an  
10 electrical heating resistance wire surrounding the tang of the blade within the handle.  
6. An electrically heated knife as claimed in any one of the preceding claims  
15 1 to 4 in which the heating means consists of an electrical heating resistance wire located within the material of the blade near the tip thereof.  
7. An electrically heated knife as  
20 claimed in Claim 5 in which the resistance wire is adapted to heat a plate of heat conducting material located within the

blade near the tip thereof.

8. An electrically heated knife as claimed in any one of the preceding claims 25 1 to 4 in which the electrical heating means comprises an electric lamp housed within the handle and wherein the blade is made hollow.  
9. An electrically heated knife as 30 claimed in any one of the preceding claims in which the current to the heating means is supplied by a dry battery mounted in the handle.  
10. An electrically heated knife as 35 claimed in any one of the preceding claims constructed and arranged to operate substantially as shown in the accompanying drawing.

Dated this 20th day of December, 1945.

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Patent Agents for the Applicant.

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[This Drawing is a reproduction of the Original on a reduced scale.]

